



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/830,148

04/23/2004

Todd S. Grace

10-1463

7833

23117

7590

05/23/2007

NIXON & VANDERHYE, PC  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER

SAVAGE, MATTHEW O

ART UNIT

PAPER NUMBER

1724

MAIL DATE

DELIVERY MODE

05/23/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/830,148	<b>Applicant(s)</b> GRACE ET AL.
	<b>Examiner</b> Matthew O. Savage	<b>Art Unit</b> 1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 3-14-07.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 21-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-15, 21-28 and 30-36 is/are rejected.
- 7) ☒ Claim(s) 29 and 37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Applicant's election of group I and species 1 in the replies filed on 12-1-06 and 3-14-07 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the seal clip having a straight shape recited in claim 4, and the elongated J shape and reverse L-shape recited in claim 24 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the seal clip having an elongated J shape and reverse L shape recited in claim 24 lacks antecedent basis in the specification.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,906,364 to Luthi.

With respect to claim 1, Luthi discloses a rotary drum filter including 10 a drum mounted for rotation (see FIG. 1), (b) a plurality of longitudinally extending division grids 24 mounted and spaced in parallel relationship about the outer circumferential surface of the drum, (c) a plurality of corrugated sheets 30 each sheet having alternating ridges and channels extending from a leading edge to a trailing edge (see FIG. 3), the leading and trailing edges of each sheet mounted on adjacent pairs of division grids to define filtrate compartments 28 around the circumference of the drum, (d) drainage slots 39 near the trailing edge of each channel for communication to said compartments, (e) a

Art Unit: 1724

plurality of perforated filter plates 40, each filter plate attached to the top of a corresponding corrugated sheet, (f) a seal clip 50 disposed at a leading edge of each corrugated sheet (see FIG. 9), (g) a seal member 56 disposed close to the underside leading edge of each corrugated sheet and engaged between the seal clip and the corrugated sheet, and (h) shoulder portions (see FIG. 5) on both longitudinal faces of each division grid adapted to slidably and replaceably mount respective leading and trailing edges of circumferentially adjacent corrugated sheets.

With respect to claim 9, Luthi discloses a corrugated sheet 30 having alternating ridges and channels extending from a leading edge to a trailing edge, and having drainage slots 39 near the trailing edge of each channel (see FIG. 9, a perforated filter 40 plate attached to the top of the corrugated sheet, a seal clip 50 disposed at a leading edge of the corrugated sheet, and a seal member 56 disposed close to the underside leading edge of each corrugated sheet and engaged between the seal clip and the corrugated sheet.

As to claims 2 and 10, Luthi discloses the sealing member as comprising Teflon (see line 31 of col. 3).

Regarding claims 3 and 11, Luthi discloses the seal clip and corrugated sheet as being made from a material comprising a common material (e.g., metal, see the cross hatching of FIGS. 4 and 5).

Concerning claim 4, Luthi discloses the seal clip as being of an L-shape that securely anchors the seal member 56.

Regarding claims 5, 6, 12, 13, Luthi discloses the filter plate 40 as having a leading and trailing edges that are set back from the leading edge of the corrugated sheet (see FIG. 8).

As to claims 7, 8, 14, 15, Luthi discloses longitudinally extending perforated cap strips 70 that are removably fixed to the division grids so as to overlap the leading and trailing edges of the adjacent corrugated sheets (see FIG. 8).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 31-28 and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,906,364 to Luthi in view of U.S. Patent 3,837,499 to Luthi.

With respect to claim 21, Luthi '364 discloses a rotary drum filter including 10 a drum mounted for rotation (see FIG. 1), (b) a plurality of longitudinally extending division grids 24 mounted and spaced in parallel relationship about the outer circumferential surface of the drum, (c) a plurality of corrugated sheets 30 each sheet having alternating ridges and channels extending from a leading edge to a trailing edge (see FIG. 3), the leading and trailing edges of each sheet mounted on adjacent pairs of division grids to define filtrate compartments 28 around the circumference of the drum, (d) drainage slots 39 near the trailing edge of each channel for communication to said

compartments, (e) a plurality of perforated filter plates 40, each filter plate attached to the top of a corresponding corrugated sheet, (f) a seal clip 50 disposed in front of a leading edge of each corrugated sheet (see FIG. 9), (g) a seal member 56 disposed in front of the leading edge of each corrugated sheet and engaged between the seal clip and the corrugated sheet, and (h) shoulder portions (see FIG. 5) on both longitudinal faces of each division grid adapted to slidably and replaceably mount respective leading and trailing edges of circumferentially adjacent corrugated sheets. Luthi '364 fails to specify the seal clip as being disposed under the leading edge of each corrugated sheet. Luthi '499 discloses the concept of disposing a seal clip 72 under and in front of a leading edge of each corrugated sheet 56 and suggests that such an arrangement provides secure support for the leading edge of the corrugated sheet. It would have been obvious to have modified the filter of Luthi '364 so as to have included the seal clip design of Luthi '499 in order to provide additional support for the leading edge of the corrugated sheet.

With respect to claim 30, Luthi '364 discloses a filter deck assembly 10 (see FIG. 1) including (a) a corrugated sheet 34 having alternating ridges and channels extending from a leading edge to a trailing edge (see FIG. 4), and having drainage slots 39 near the trailing edge of each channel (see FIG. 9), a perforated filter plate 40 attached to the top of the corrugated sheet, and a seal clip 50 disposed in front of a leading edge of each corrugated sheet. Luthi '364 fails to specify the seal clip as being disposed under the leading edge of each corrugated sheet. Luthi '499 discloses the concept of disposing a seal clip 72 under and in front of a leading edge of each corrugated sheet

56 and suggests that such an arrangement provides secure support for the leading edge of the corrugated sheet. It would have been obvious to have modified the filter of Luthi '364 so as to have included the seal clip design of Luthi '499 in order to provide additional support for the leading edge of the corrugated sheet.

As to claims 22 and 31, Luthi '364 discloses the sealing member as comprising Teflon (see line 31 of col. 3).

Regarding claim 23 and 32, Luthi '364 discloses the seal clip and corrugated sheet as being made from a material comprising a common material (e.g., metal, see the cross hatching of FIGS. 4 and 5).

Concerning claim 24, Luthi '364 disclose the seal clip as being of an L-shape that securely anchors the seal member 56.

Regarding claims 25, 26, 33, and 34, Luthi '364 discloses the filter plate 40 as having a leading and trailing edges that are set back from the leading edge of the corrugated sheet (see FIG. 8).

As to claims 27, 28, 35, and 36, Luthi '364 discloses longitudinally extending perforated cap strips 70 that are removably fixed to the division grids so as to overlap the leading and trailing edges of the adjacent corrugated sheets (see FIG. 8).

Claims 29 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew O. Savage whose telephone number is (571) 272-1146. The examiner can normally be reached on Monday-Friday, 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Matthew O. Savage*  
Matthew O Savage  
Primary Examiner  
Art Unit 1724

mos